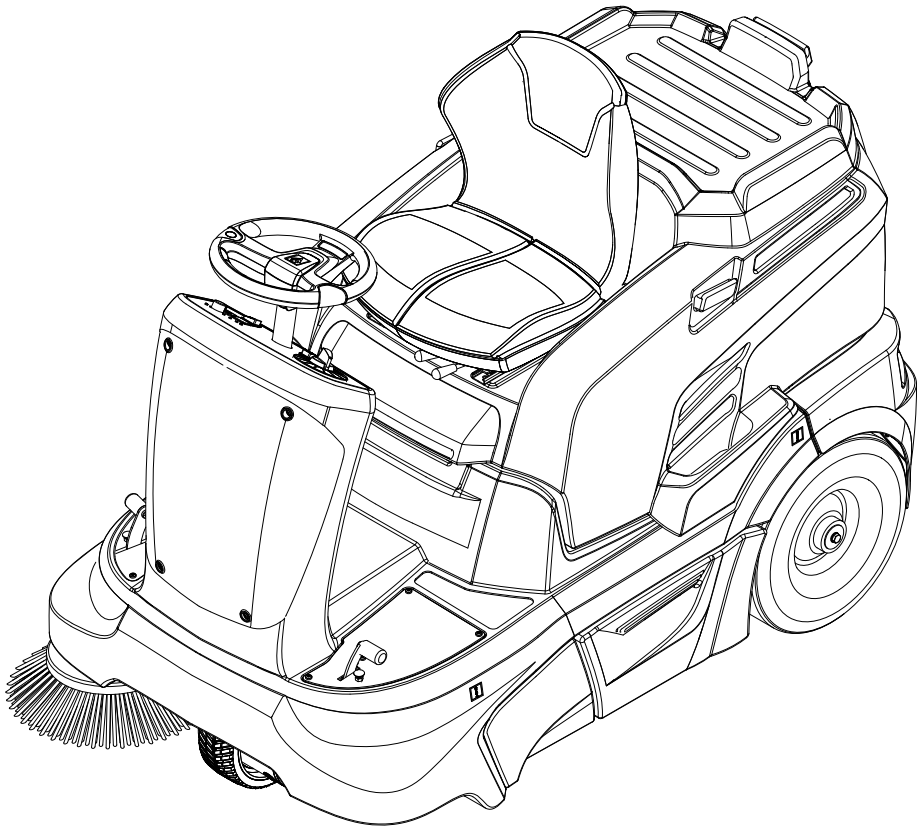
WINDSOR®

RRB 360 T



English 2
Français 18
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Operator Qualifications

Only trained and authorized persons shall be permitted to operate a powered unit. Operators of powered units shall be qualified as to visual, auditory, physical, and mental ability to operate the equipment safely according to the following points.

Operator Training

– Personnel who have not been trained to operate powered units may operate a unit for the purposes of training only, and only under the direct supervision of the trainer. This training should be conducted in an area away from other units, obstacles, and pedestrians.
– The operator training program should include the user's policies for the site where the trainee will operate the unit, the operating conditions for that location, and the specific unit the trainee will operate. The training program shall be presented to all new operators regardless of previous experience.

The training program shall inform the trainee that:

A The primary responsibility of the operator is to use the unit safely following the instructions given in the training program.
B Unsafe or improper operation of a powered unit can result in: death or serious injury to the operator or others; damage to the powered unit or other property.

The training program shall emphasize safe and proper operation to avoid injury to the operator and others and prevent property damage, and shall cover the following areas:

A Fundamentals of the powered unit(s) the trainee will operate, including:
(1) characteristics of the powered unit(s), including variations between the units in the workplace;
(2) similarities and differences from automobiles;
(3) significance of nameplate data, warnings, and instructions affixed to the unit;
(4) operating instructions and warnings in the operating manual for the unit, and instructions for inspection and maintenance to be performed by the operator;
(5) type of motive power and its characteristics;
(6) method of steering;
(7) braking method and characteristics;
(8) visibility, forward and reverse;
(9) stability characteristics with and without load, with and without attachments;
(10) controls-location, function, method of operation, identification of symbols;
(11) battery charging;
(12) guards and protective devices for the specific type of unit;
(13) other characteristics of the specific unit;
B Operating environment and its effect on unit operation, including:
(1) floor or ground conditions including temporary conditions;
(2) ramps and inclines;
(3) battery charging facilities;
(4) narrow aisles, doorways, overhead wires and piping, and other areas of limited clearance;
(5) areas where the unit may be operated near other powered units, other vehicles, or pedestrians;
(6) operation near edge of dock or edge of improved surface;
(7) other special operating conditions and hazards which may be encountered.
C Operation of the powered unit, including:
(1) proper preshift inspection and approved method for removing from service a unit which is in need repair;
(2) parking and shutdown procedures;
(3) other special operating conditions for the specific application.
D Operating safety rules and practices, including:
(1) provisions of the section „OPERATING SAFETY RULES AND PRACTICES“ in this document.
(2) other rules, regulations, or practices specified by the employer at the location where the unit will be used.
E Operational training practice, including:
(1) if feasible, practice in the operation of a powered unit shall be conducted in an area separate from other workplace activities and personnel:
(2) training practice shall be conducted under the supervision of the trainer;
(3) training practice shall include the actual operation or simulated performance of all operating tasks such as maneuvering, traveling, stopping, starting, and other activities under the conditions which will be encountered in the use of the unit.

Testing, Retraining, and Enforcement

A During training, performance and oral and/or written tests shall be given by the employer to measure the skill and knowledge of the operator in meeting the requirements of the Standard. Employers may delegate such testing to others but shall remain responsible for the testing. Appropriate records shall be kept.
B Operators shall be retrained when new equipment is introduced, existing equipment is modified, operating conditions change, or an operator's performance ins unsatisfactory.
C The user shall be responsible for enforcing the safe use of the powered unit according to the provisions of this manual.

NOTE: Information on operator training is available from such sources as powered unit manufacturers, government agencies dealing with employee safety, trade organizations of users of powered units, public and private organizations, and safety consultants.

OPERATING SAFETY RULES AND PRACTICES

Operator Responsibility

– Safe operation is in the responsibility of the operator.
– The operator shall develop safe working habits and also be aware of hazardous conditions in order to protect himself, other personnel, the unit, and other material.
– The operator shall be familiar with the operation and function of all controls and instruments before undertaking to operate the unit.
– Before operating the unit, operators shall have read and be familiar with the operator's manual for the particular unit being operated and they shall also abide by the safety rules and practices in the following paragraphs.
– Before operating any unit, the operator shall be familiar with unusual operating conditions which may require additional safety precautions or special operating instructions.

General

Before starting to operate the unit:

A be in operating position;
B place directional controls in neutral;
C turn switch to ON position.

– Do not start or operate the unit, any of its functions or attachments, from any place other than from the designated operator's position.
– Keep hands and feet inside the operator's designated area.

Understand unit limitations and operate the unit in a safe manner so as not to cause injury to personnel. Safeguard pedestrians at all times.

A Do not drive a unit up to anyone standing in front of an object.
B Ensure that personnel stand clear of rear swing area before conducting turns and maneuvers.
C Exercise particular care at cross aisles, doorways, and other locations where pedestrians may step into the path of travel of the unit.

– Do not permit passengers to ride on powered units unless a safe place to ride has been provided by the manufacturer.
– A powered unit is attended when the operator is less than 25 ft (7.6 m) from the unit, which remains in his view.

– A powered unit is unattended when the operator is more than 25 ft (7.6 m) from the unit, which remains in his view, or whenever the operator leaves the unit and it is not in his view.

Before leaving the operator's position:

A bring the unit to a complete stop;

B place the directional controls in neutral;

C apply the parking brake;

In addition, when leaving the unit unattended:

A stop the engine or turn off the controls;

B if the unit must be on an incline, block the wheels.

– Maintain a safe distance from the edge of ramps, platforms, and other similar working surfaces.

– When powered units are driven on and off highway trucks or trailers, the brakes on the highway trucks or trailers shall be applied and wheel chocks or other positive mechanical means shall be used to prevent unintentional movement of highway trucks and trailers.

– When powered units are driven on and off semitrailers that are not coupled to a tractor, supports may be needed to prevent upending or corner dipping.

– Care shall be taken not to contact overhead installations such as lights, wiring, pipes, sprinkler systems, etc.

– Report all accidents involving personnel, building structures, and equipment to the supervisor or as directed.

– Do not add to, or modify the unit.

– Do not block access to fire aisles, stairways or fire equipment.

Traveling

– Observe all traffic regulations including authorized plant speed limits. Under normal traffic conditions, keep to the right. Maintain a safe distance, based on speed of travel, from the unit ahead; keep the unit under control all times.

– Yield the right of way to pedestrians and emergency vehicles such as ambulances and fire trucks.

– Do not pass another unit traveling in the same direction at intersections, blind spots, or at other dangerous locations.

– Slow down and sound the audible warning device(s) at cross aisles and other locations where vision is obstructed.

– Cross railroad tracks at an angle wherever possible. Do not park closer than 6 ft (1800 mm) to the nearest rail of a railroad track.

– Keep a clear view of the path of travel and observe for other traffic, personnel, and safe clearances.

– Ascend or descend grades slowly, and with caution. Avoid turning, if possible, and use extreme caution on grades, ramps, or inclines; normally travel straight up and down.

– Under all travel conditions, operate the unit at a speed that will permit it to be brought to a stop in a safe manner.

– Make starts, stops, turns, or direction reversals in a smooth manner so as not shift load and/or overturn the unit.

– Do not indulge in stunt driving or horseplay.

– Slow down for wet and slippery floors.

– Before driving over a dockboard or bridge plate, be sure that it is properly secured. Drive carefully and slowly across the dockboard or bridge plate, and never exceed its rated capacity.

– Do not drive units onto any elevator unless specially authorized to do so. Do not exceed the capacity of the elevator. Approach elevators slowly, and then enter squarely after the elevator car is properly leveled. Once on the elevator, neutralize the controls, shut off power, and set brakes. It is advisable that all other personnel leave the elevator before the unit is allowed to enter or leave.

– When negotiating turns, reduce speed to a safe level consistent with the operating environment. Make the turns smoothly.

The operation of a counterbalanced, center control, high lift unit with a sit-down, nonelevating operator requires special safety considerations, as follows:

A An unit may tip over if an operator fails to slow down to a safe speed before making turns. Indications that an unit is being driven at an excessive speed during turning maneuvers include:
(1) tire skidding;
(2) unit side sway;
(3) wheel lift; and
(4) the need to grip the steering wheel tightly to keep from sliding out of the seat.

B The likelihood of lateral tip over is increased under any of the following conditions, or combinations of them:
(1) braking or accelerating sharply while turning;
(2) traveling on an uneven surface;
(3) traveling at excessive speed.

C Tipping forward can occur and its likelihood is increased under the following condition: hard braking while traveling forward.

D The operator should stay with the unit if it falls off a loading dock or ramp. The operator should hold on firmly and lean away from the point of impact.

E Where the environment presents a severe hazard, or there are other unusual operating conditions, the user may need to establish different and/or additional safety precautions and special operating instructions appropriate for the conditions.

Operator care of the unit

At the beginning of each shift and before operating the unit, check its condition, giving special attention to the following:

A condition of tires

B if pneumatic tires, check inflation pressures

C warning and safety devices

D lights

E battery

F controls

G chains and cables

H limit switches

I steering mechanism

J additional items or special equipment as specified by the user and/or manufacturer

If the unit is found to be in need of repair or in any way unsafe, or contributes to an unsafe condition, the matter shall be reported immediately to the user's designated authority, and the unit shall not be operated until it has been restored to safe operating condition.

– If during operation the unit becomes unsafe in any way, the matter shall be reported immediately to the user's designated authority, and the unit shall not be operated until it has been restored to safe operating condition.

– Do not make repairs or adjustments unless specifically authorized to do so.

– Do not use open flames when checking electrolyte level in storage batteries.

MAINTENANCE AND REBUILD PRACTICES

– Operation of the unit may be hazardous if maintenance is neglected or repairs, rebuilds, or adjustments are not performed in accordance with the manufacturer's design criteria. Therefore, maintenance facilities (on or off premises), trained personnel, and detailed procedures shall be provided.

– Parts manuals and maintenance manuals may be obtained from the unit manufacturer.

– In unusual cases not covered by the manuals referred above, consult the unit manufacturer.

Maintenance and inspection of the unit shall be performed in conformance with the following practices:

A a schedules planned maintenance, lubrication, and inspection system shall be followed; consult the manufacturer's recommendations;

B only trained and authorized personnel shall be permitted to maintain, repair, adjust, and inspect the unit, and in accordance with manufacturer's specifications.

When lifting units for repair or inspection, units shall be lifted in a safe, secure, stable manner. Removal of components such as counterweights or uprights will change the center of gravity and may create an unstable condition.

Before starting inspection and repair of the unit:

A raise drive wheels free of floor or disconnect battery and use chocks or other positive unit positioning devices;
B block chassis before working on them;
C disconnect battery before working on the electrical system;
D the charger connector shall be plugged only into the battery connector and never into the unit connector.

Operation of the unit to check performance shall be conducted in an authorized area where safe clearance exists.

A Before starting to operate the unit:
(1) be in operating position;
(2) place directional controls in neutral;
(3) turn switch to ON position;
(4) check function of steering, warning devices, and breaks;

B Before leaving the unit:
(1) stop unit;
(2) place directional controls in neutral;
(3) stop the engine or turn off power;
(4) turn off the control circuit;
(5) if the unit must be left on an incline, block the wheels.

– Avoid fire hazards and have fire protection equipment present in the work area. Do not use any open flame to check the level or to check for leakage of any fluid, especially battery electrolyte. Do not use open pans of fuel or flammable cleaning fluids for cleaning parts.
– Properly ventilate work area, vent exhaust fumes, and keep shop clean and dry.
– Brakes, steering mechanisms, control mechanisms, warning devices, articulating axle stops, and frame members shall be carefully and regularly inspected and maintenance in safe operating condition.

FIRE SAFETY STANDARD

Maintenance

– Any unit not in safe operating condition shall be removed from service.
– **Precautions.** Repairs shall not be made in Class I, Class II, and Class III locations.
Repairs to the electrical system of battery-powered units shall be performed only after the battery has been disconnected.
– **Operating Temperature.** Where temperature of any part of the unit is found to be in excess of its normal operating temperature and creates a hazardous condition, the unit shall be removed from service and shall not be returned to service until the cause for such overheating has been eliminated.
– **Fire Prevention.** The unit shall be kept in a clean condition and reasonably free of lint, excess oil, and grease. Noncombustible agents are preferred for cleaning the unit. Flammable liquids [those having flash points at or above 100°F (37,8°C)] are not allowed. Precautions regarding toxicity, ventilation, and fire hazard shall be appropriate for the agent or solvent used.
– Nameplate Visibility: The unit type designations as shown on the nameplate and the type markers shall not be covered over with paint so that their identification information is obscured.
– The unit shall not be used in classified areas.

Changing and Charging Storage Batteries

– This section shall apply to batteries used in electric units. The two types of batteries commonly used are lead and nickel-iron. They contain corrosive chemical solutions, either acid or alkali, and, therefore , present a chemical hazard. While being charged, they give off hydrogen and oxygen, which, in certain concentrates, are explosive.

Battery-charging installations shall be located in areas designated for that purpose; such areas shall be kept free of extraneous combustible materials. Facilities shall be provided for the following:

A Flushing spilled electrolyte;
B Fire protection;
C Protecting charging apparatus from damage by trucks; and
D Adequate ventilation for dispersal of fumes from gasing batteries.

Where on-board chargers are used, charging shall be accomplished at locations designated for that purpose, taking into account the electrical requirements of the charger and facilities for fire protection.
Exception: Flushing facilities shall not be required if charging is accomplished without removing the battery from the vehicle.

– Where handling acid concentrates greater than 50 percent acid (above 1.400 specific gravity), an eye-wash fountain shall be provided.
– A conveyor, overhead hoist, or equivalent material handling equipment shall be provided for handling batteries.
– Chain hoists shall be equipped with load-cabin containers. Where a hand hoist is used, uncovered batteries shall be covered with a sheet of plywood or other nonconducting material to prevent the hand chain from shorting on cell connectors or terminals. A properly insulated spreader bar shall be used with any overhead hoist.
– Reinstalled or new batteries shall meet or exceed the battery type marked on the unit. Reinstalled batteries shall be positioned properly and secured in the unit.
– A carboy filter or siphon shall be provided where acid in carboys is used. When diluting concentrated sulfuric acid to make up electrolyte, the acid ALWAYS shall be added to the water - not the reverse. Battery maintenance personnel shall wear protective clothing such as eye protection, long sleeves, and gloves.
Exception: Removal and replacement of batteries shall not require the use of protective clothing.
– Electrical installations shall be in accordance with NFPA 70, *National Electrical Code,* and any local ordinances.
– Trained and authorized personnel shall change or charge batteries.
– Units shall be positioned properly and brakes shall be applied before attempting to change or charge batteries.
– Where charging batteries, the vent caps shall be kept in place to avoid electrolyte spray. Care shall be taken to ensure that vent caps are functioning. The battery (or compartment cover(s) shall be open to dissipate heat and gas.
– Smoking shall be prohibited in the charging area.
– Precautions shall be taken to prevent open flames, sparks, or electric arcs in battery-charging areas.
– Tools and other metallic objects shall be kept away from the tops of uncovered batteries.

Please read and comply with these original instructions prior to the initial operation of your appliance and store them for later use or subsequent owners.
Please read the safety instructions before start-up!

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General notes

Your sales outlet should be informed about any transit damage noted when unpacking the product.

- Warning and information plates on the machine provide important directions for safe operation.
- In addition to the information contained in the operating instructions, all statutory safety and accident prevention regulations must be observed.

Environmental protection

	The packaging material can be recycled. Please do not throw the packaging material into household waste; please send it for recycling.
	Old appliances contain valuable materials that can be recycled. Please arrange for the proper recycling of old appliances. Please dispose your old appliances using appropriate collection systems.

Warranty

The warranty terms published by our competent sales company are applicable in each country. We will repair potential failures of your appliance within the warranty period free of charge, provided that such failure is caused by faulty material or defects in fabrication. In the event of a warranty claim please contact your dealer or the nearest authorized Customer Service center. Please submit the proof of purchase.

Accessories and Spare Parts

⚠ ***DANGER***

To avoid risks, all repairs and replacement of spare parts may only be carried out by authorized customer service personnel.

- Only use accessories and spare parts which have been approved by the manufacturer. The exclusive use of original accessories and original spare parts ensures that the appliance can be operated safely and troublefree.
- At the end of the operating instructions you will find a selected list of spare parts that are often required.

Symbols in the operating instructions

⚠ ***DANGER***

Warns about immediate danger which can lead to severe injuries or death.

⚠ ***WARNING***

Warns about possible danger which could lead to severe injuries or death.

CAUTION

Points out a possibly dangerous situation which can lead to light injuries or property damage.

Symbols on the appliance

	Please do not sweep away any burning substances such as cigarettes, match sticks or similar objects.
	Risk of being squeezed or hurt at the belts, side-brushes, containers, machine cover.
	Tyre pressure
	Intake points for the jack
	Lashing point
	Wet/dry flap

Proper use

Use this sweeper only as directed in these operating instructions.

- This sweeper has been designed to sweep dirt and debris from outdoor surfaces.
- The machine is not suitable for being driven on public roads.
- Any use extending beyond what is listed above is not considered as proper use. The manufacturer is not liable for any losses resulting from improper use.
- The machine may not be modified.
- The machine is only suitable for use on the types of surfaces specified in the operating instructions.
- The machine may only be operated on the surfaces approved by the company or its authorized representatives.
- The following applies in general: Keep highly-flammable substances away from the appliance (danger of explosion/fire).

Foreseeable misuse

- Never vacuum up explosive liquids, combustible gases or undiluted acids and solvents. This includes petrol, paint thinner or heating oil which can generate explosive fumes or mixtures upon contact with the suction air. Acetone, undiluted acids and solvents must also be avoided as they can harm the materials on the machine.
- Never sweep/vacuum up reactive metal dusts (e.g. aluminium, magnesium, zinc), as they form explosive gases when they come in contact with highly alkaline or acidic detergents.
- The appliance is not suitable for sweeping off hazardous substances.
- Do not sweep/vacuum up any burning or glowing objects.
- The machine may not be used or stored in hazardous areas. It is not allowed to use the appliance in hazardous locations.
- It is strictly prohibited to take co-passengers.
- Pushing/pulling or transporting objects by means of this appliance is prohibited.

Suitable surfaces

- Asphalt
- Industrial floor
- Screed
- Concrete
- Paving stones
- Carpet*

  * only with carpet sweeping unit (option ex factory)

Safety instructions

Application

- *The machine with working equipment must be checked to ensure that it is in proper working order and is operating safely prior to use. Otherwise, the appliance must not be used.*
- *If the appliance is used in hazardous areas (e.g. filling stations) the corresponding safety provisions must be observed. It is prohibited to use the appliance in hazardous locations.*

Operation

- *The appliance must not be operated by children or persons who have not been instructed accordingly.*
- *The appliance may be used by individuals with limited physical, sensory or cognitive abilities or lack of experience and knowledge if they are under supervision or were instructed regarding the safe use of the appliance and understand the resulting risks.*
- *The operator must use the appliance properly. The person must consider the local conditions and must pay attention to third parties, in particular children, when working with the appliance.*
- *Prior to starting work, the operator must ensure that all protective devices are properly installed and function correctly.*
- *The operator of the appliance is liable for accidents with other individuals or their property.*
- *Ensure that the operator wears tight-fitting clothes. Wear sturdy shoes and avoid wearing loose-fitting clothes.*
- *Check the immediate vicinity prior to starting (e.g. children). Ensure sufficient visibility!*
- *Never leave the machine unattended so long as the engine is running. The operator may leave the machine only when the engine has come to a standstill, the machine has been protected against accidental movement, if necessary, by applying the immobilization brake and the ignition key has been removed.*
- *The appliance may only be used by persons who have been instructed in handling the appliance or have proven qualification and expertise in operating the appliance or have been explicitly assigned the task of handling the appliance.*
- *Children should be supervised to prevent them from playing with the appliance.*

Drive mode

⚠ ***Danger***

Risk of injury!

Danger of tipping if gradient is too high.

- *The falling and rising gradients in the direction of travel may not exceed 12%.*

Danger of tipping on unstable ground.

- *Only use the machine on sound surfaces.*

Danger of tipping with excessive sideways tilt.

- *The gradient perpendicular to the direction of travel should not exceed 12%.*

Battery-operated machines

PROPOSITION 65
WARNING
Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. Wash hands after handling.

Note

Warranty claims will be entertained only if you use batteries and chargers recommended by Windsor.

- *Always follow the instructions of the battery manufacturer and the charger manufacturer. Please follow the statutory requirements for handling and disposing batteries.*
- *Never leave the batteries in a discharged state; recharge them as soon as possible.*
- *Always keep the batteries clean and dry to avoid battery drain. Protect the batteries and avoid contact with impurities such as metal dust.*
- *Do not place tools or similar items on the battery. Risk of short-circuit and explosion.*
- *Do not work with open flames, generate sparks or smoke in the vicinity of a battery or a battery charging room. Danger of explosion.*
- *Do not touch hot parts of the machine such as the drive motor (risk of burns).*
- *Be careful while handling battery acid. Follow the respective safety instructions!*
- *Used batteries are to be disposed of properly.*

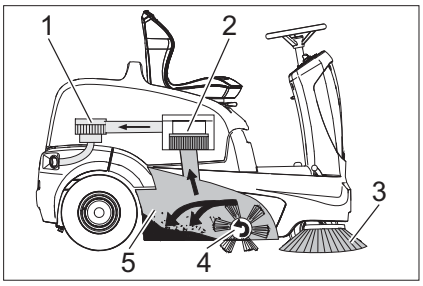
Transport

- *The engine is to be brought to a standstill and the appliance is to be fastened properly during transportation.*

Maintenance

- *First switch off the appliance and remove the key before performing any cleaning or maintenance tasks on the appliance, replacing parts or switching over to another function.*
- *Do not clean the appliance with a water hose or high-pressure water jet (danger of short circuits or other damage).*
- *Maintenance work may only be carried out by approved customer service outlets or experts in this field who are familiar with the respective safety regulations.*
- *Please observe the local safety regulations regarding portable commercially used appliances.*
- *Always use appropriate gloves while working on the device.*

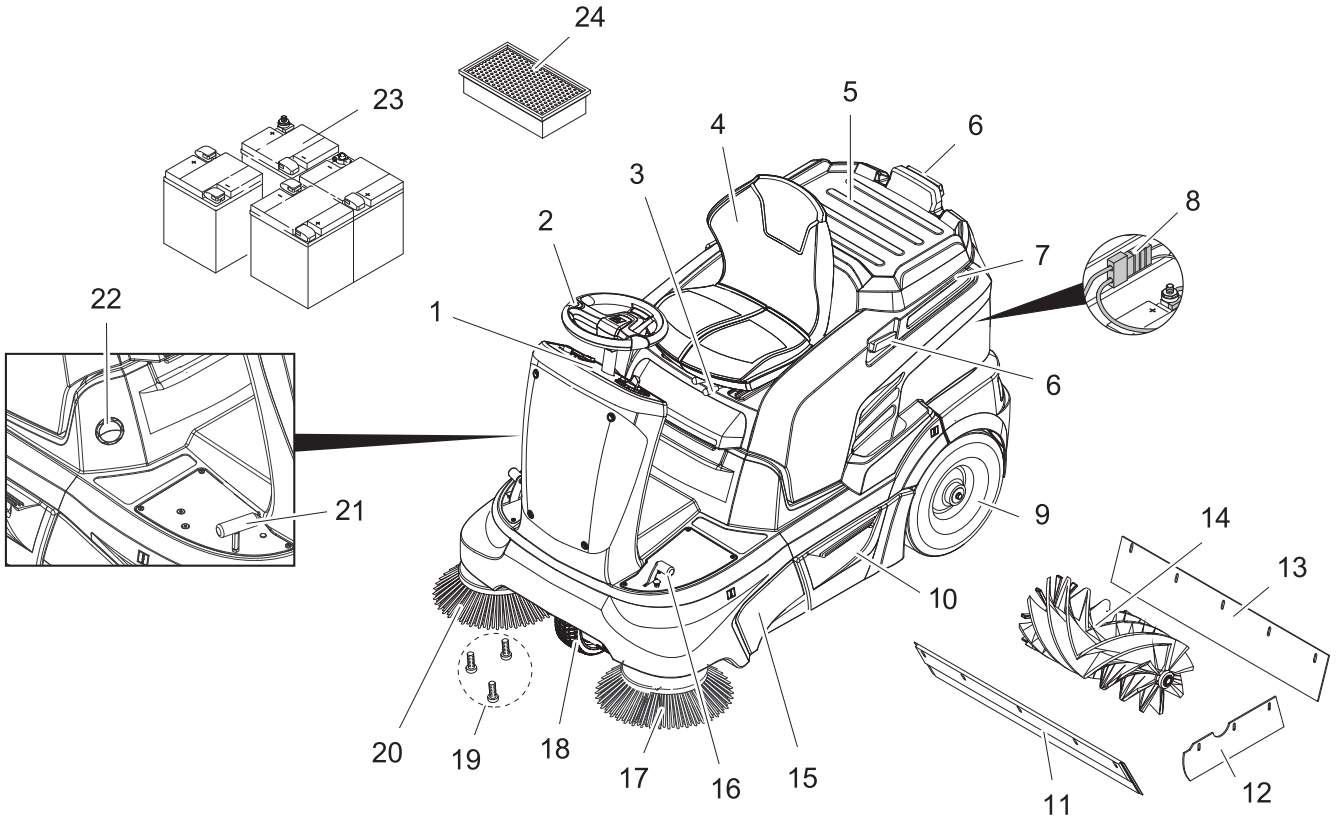
Function



The sweeper operates using the overthrow principle.

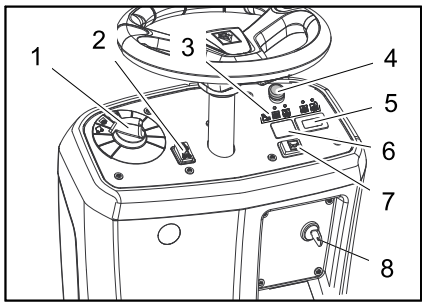
- The side brushes (3) clean the corners and edges of the surface, moving dirt and debris into the path of the roller brush.
- The rotating roller brush (4) moves the dirt and debris directly into the waste container (5).
- The dust raised in the container is separated by the dust filter (2) and the filtered clean air is drawn off by the suction fan (1).
- The cleaning of the dust filter (2) takes place automatically.

Operating and Functional Elements



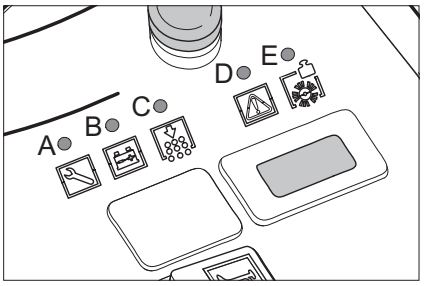
1 Operating field
2 Steering wheel
3 Lever for seat adjustment
4 Seat (with seat contact switch)
5 Storage area
6 Holding rail for home base
7 Cover
8 Battery charge plug
9 Rear wheel
10 Waste container (both sides)
11 Front sealing strip
12 Side sealing strip
13 Rear sealing strip
14 Roller brush
15 Roller brush access
16 Pedal for raising/lowering bulk waste flap
17 Left side brush (optional)
18 Front wheel
19 Fastener of the side brush
20 Right side brush
21 Drive pedal
22 Wet/dry flap
23 Batteries (not included in delivery)
24 Dust filter (flat-fold filter)

Operating field



1 Programme switch
2 Travel direction switch (forward/reverse)
3 Indicator lamps
4 Emergency-stop button
5 Operating hour counter
6 Not assigned
7 Horn
8 Key switch

Indicator lamps



A Service (yellow)
B Battery charge status (red/yellow/green)
C Overload of the filter cleaning (red)
D Overload of the drive motor (red)
E Overload of the sweep roller (red)

Parking brake

The appliance is equipped with an automatic parking brake that is integrated in the front-wheel drive.
The parking brake acts as soon as the appliance comes to a standstill.

Before Startup

Open/ close device hood

⚠ ***DANGER***

Danger of crushing while closing the machine cover. Hence, lower the machine cover slowly.

Prior to commissioning, maintenance or adjustment tasks, the appliance cover must be opened.

➔ Grab the front of the appliance cover and fold it back together with the seat.

➔ A retaining band keeps the appliance cover in the rear position.

Unloading tips

⚠ ***Danger***

Risk of injury, risk of damage!
Observe the weight of the appliance when you load it!
Do not use a forklift truck to unload the machine as this may damage it.

Note

Press the emergency-stop button to immediately deactivate all functions and turn the key switch to the "0" position.

Weight (without batteries)	451 lbs * (205 kg *)
* If upgrade kits are installed, the weight is respectively higher.	

➔ Use a suitable ramp or a crane to load the appliance!

➔ If the machine is delivered on a pallet, you must create an unloading ramp using the boards provided.

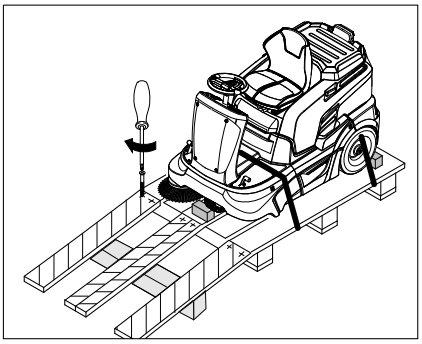
To unload the machine, proceed as follows:

➔ Cut plastic packing belt and remove foil.

➔ Remove the elastic tape fasteners at the stop points.

➔ Four indicated floor boards of the pallet are fastened with screws. Unscrew these boards.

➔ Place the boards on the edge of the pallet. Place the boards in such a way that they lie in front of the four wheels of the machine. Fasten the boards with screws.



➔ Slide the four support beams included in the packaging under the ramp.

➔ Remove the wooden blocks used for arresting the wheels and slide them under the ramp.

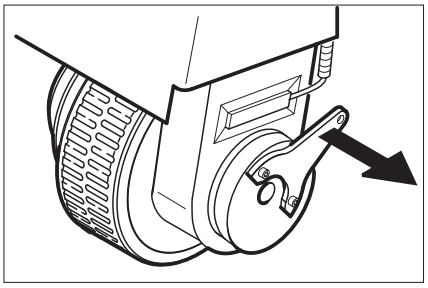
Push the sweeper off the pallet (appliance without built-in battery)

⚠ ***DANGER***

– *Risk of injury! Before releasing the immobilizing brake, the machine must be secured to prevent it rolling away. After releasing the emergency brake, the appliance will roll until a speed of 4.5 km/h is reached. After that, the electronics will brake the appliance.*

– *It is prohibited to release the emergency brake on an incline without using the stopper.*

➔ Release parking brake.



➔ Remove the brake level from the wheel and put it in its position.
The immobilizing brake is thus deactivated; the machine can now be moved.

➔ Slide the machine over the prepared ramp from the pallet.

Drive the sweeper off the pallet (appliance with built-in battery)

➔ Connect the battery, refer to Chapter "Connecting and installing the battery".

➔ Release emergency-stop button by turning.

➔ Set main switch to "1".

➔ Press the drive direction switch and slowly move the machine down from the ramp.

➔ Set main switch back to "0".

Batteries

Safety notes regarding the batteries

Please observe the following warning notes when handling batteries:

	Observe the directions on the battery, in the instructions for use and in the vehicle operating instructions!
	Wear an eye shield!
	Keep away children from acid and batteries!
	Risk of explosion!
	Fire, sparks, open light, and smoking not allowed!
	Danger of caustic material!
	First aid!
	Warning note!
	Disposal!
Pb	*Do not throw the battery in the trash bin!*

⚠ ***Danger***

Risk of explosion! Do not put tools or similar on the battery, i.e. on the terminal poles and cell connectors.

⚠ ***Danger***

Risk of injury! Ensure that wounds never come into contact with lead. Always clean your hands after having worked with batteries.

⚠ ***Danger***

Risk of fire and explosion!

– *Smoking and naked flames are strictly prohibited.*

– *Rooms where batteries are charged must have good ventilation because highly explosive gas is emitted during charging.*

– *Batteries must not be stored outside.*

⚠ ***Danger***

Danger of caustic material!

– *Rinse thoroughly with lots of clear water if acid gets into the eye or comes in contact with the skin.*

– *Then consult a doctor immediately.*

– *Wash off the acid If it comes in contact with the clothes.*

Installing and connecting the batteries

➔ Open the device hood.

➔ Insert batteries into the battery mount.

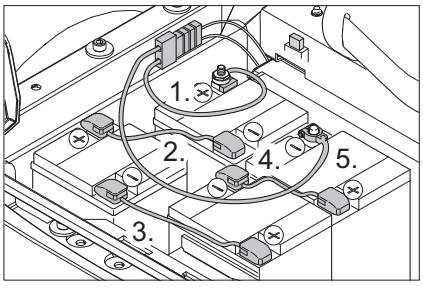
➔ Adjust the rubber buffers to hold the batteries properly.

⚠ ***Warning***

Pay attention to correct poles.

Note

The connection lines are not included in the delivery scope.



➔ Connect pole terminal (red cable) to positive pole (+).
➔ Screw the connection lines onto the batteries.
➔ Connect pole terminal to negative pole (-).

Note

Before removing the battery, make sure that the negative pole lead is disconnected. Check that the battery pole and pole terminals are adequately protected with pole grease.

⚠ ***WARNING***

Charge the batteries before commissioning the machine.

Charge the batteries

⚠ ***Danger***

Risk of injury! Comply with safety regulations on the handling of batteries. Observe the directions provided by the manufacturer of the charger.

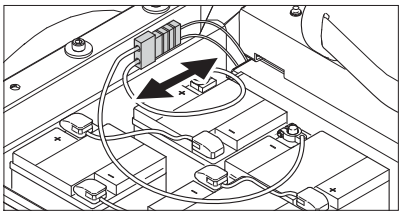
⚠ ***DANGER***

Charge the battery only with an appropriate charger.

Note

When the batteries are charged, first remove the charger from the mains and then disconnect it from the batteries.

➔ Open the device hood.
➔ Separate the battery plug and connect the charger cable.



➔ Plug in power cord and switch on charger.

Note

The recommended chargers (matching the batteries used) are regulated electronically and will automatically switch off the charging process. All functions of the machine are automatically interrupted during the charging process.

Low maintenance batteries

➔ Add distilled water one hour before the end of the charging process; follow the correct acid level. There are corresponding indicators on the battery.

⚠ ***DANGER***

Danger of causticization! Adding water to the battery in its discharged state can cause the acid to leak.
Wear protective glasses and protective clothing when handling battery acid. Observe the regulations concerning the handling of batteries!

⚠ ***DANGER***

Danger of caustic material!
– *Rinse thoroughly with lots of clear water if acid gets into the eye or comes in contact with the skin.*
– *Then consult a doctor immediately.*
– *Change clothing.*
– *Wash off the acid If it comes in contact with the clothes.*

⚠ ***Warning***

Risk of damage. Use only distilled or desalinated water (VDE 0510) for filling the battery. Do not add any substances (so-called performance improving agents), else warranty claims will not be entertained.

After charging

➔ Switch off the charger and remove the plug from the socket.
➔ Pull the battery cable from the charger cable and connect it to the appliance.

Check and correct the fluid level of the battery (only for low-maintenance batteries)

⚠ ***Warning***

Regularly check the fluid level in acid-filled batteries.
– The acid in a fully charged battery has a specific weight of 10.85 lbs/gal (1.28 kg/l) at a temperature of 68 °F (20 °C).
– The acid in a partially discharged battery has a specific weight between 8.46 and 10.85 lbs/gal (1.00 and 1.28 kg/l).
– The specific weight of the acid must be uniform in all cells.
➔ Unscrew all cell caps.
➔ Take a sample from each cell using the acid tester.
➔ Put the acid sample back into the same cell.
➔ Where fluid level is too low, top up cells to the mark provided with distilled water.
➔ Charge battery.
➔ Screw in cell caps.

Start up

General notes

The appliance will brake electrically while standing still, if one of the following conditions is met.
– Foot was removed from the pedal.
– Operator's seat was left for more than 1 second.
– Key switch was set to “0”.

The automatic emergency brake will only work while the appliance is at a standstill.
➔ Park the sweeper on an even surface.
➔ Remove the key.

Prior to start/safety test

➔ Check charging status of battery.
➔ Check side brush.
➔ Check the roller brush for wear and wrapped belts.
➔ Empty waste container.
➔ Check tyre pressure.
➔ Check function of seat contact switch.

Note: For description, see section on Care and maintenance.

Operation

Adjusting driver's seat

➔ Pull seat adjustment lever inwards.
➔ Slide seat, release lever and lock in place.
➔ Check that the seat is properly locked in position by attempting to move it backwards and forwards.

Check charging status of battery

– **Indicator lamp glows green**
Battery is charged (100...40%).
– **Indicator lamp glows yellow**
Battery is discharged to 40 ... 20%.
– **Indicator lamp blinks red**
Battery is almost discharged. The sweeping mode will be shortly switched off automatically.
– **Indicator lamp glows red**
Battery is discharged. The sweeping mode will be terminated automatically (the sweeping aggregates cannot be taken into operation until the battery is charged).
➔ Drive the machine directly to the charging station; avoid any steep gradients in the process.
➔ Charge battery.

Check immobilizing brake

⚠ ***Danger***

Danger of accident. The immobilizing brake must always be checked first on an even surface before starting the machine.
➔ Take the seating position.
➔ Release emergency-stop button by turning.
➔ Set main switch to "1".
➔ Activate the travel direction switch (forward/reverse).
➔ Gently depress drive pedal.
The break must unlock audibly and smoothly start rolling on a level ground.
➔ Release the drive pedal.
When the drive pedal is released, the brake must brake in an audible manner.

Note: If this is not the case, put the appliance out of operation and call the customer service.

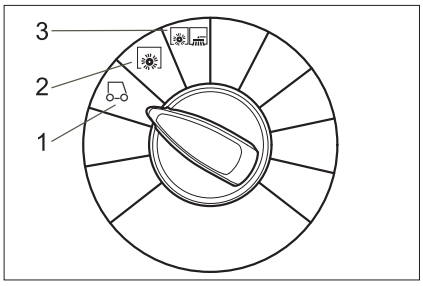
Storage area

Note: The max. load of the storage area is 44 lbs (20 kg).
➔ Ensure safe fastening of the cargo.

Emergency-stop button

– The appliance has an emergency OFF switch. If this switch is pressed, the appliance will stop abruptly and the automatic emergency brake will be activated.
– In order to restart the appliance, first unlock the emergency OFF switch, then turn the key switch on and off.

Programme selection



1 Driving
Driving to the Place of Use.
Side brush and roller brush are raised.

2 Sweeping with sweep roller
Roller brush is lowered.

3 Sweeping using roller brush and side brushes
Roller brush and side brushes are lowered.

Turning on the Machine

Note

The machine is equipped with a seat contact switch When you quit the driver seat, the machine comes to a halt after a delay of approx. 1.5 seconds and the activated sweep function is switched off.

➔ Sit on the driver's seat.
➔ Do NOT press the accelerator pedal.
➔ Set programme switch to step 1 (driving).
➔ Set main switch to "1".

Drive the machine

⚠ ***Danger***

Danger of accident! If the machine does not brake, then proceed as follows:

– If the device does not come to a halt on a ramp with a gradient of 2% when you release the drive pedal, then the emergency-stop button may be pressed for safety reasons only if the mechanical functioning of the immobilizing brake has been checked properly before commissioning the device.
– Switch off the machine only after it comes to a complete halt (on an even surface) and call up the customer service!
– Further, follow all warning instructions for braking.

➔ Release emergency-stop button by turning.
➔ Sit on the seat and set main switch to "1".

Drive forward

➔ Set the travel direction switch to "forward".
➔ Press accelerator pedal down slowly.

Reverse drive

⚠ ***DANGER***

– *Risk of injury! While reversing, ensure that there is nobody in the way, ask them to move if somebody is around.*
– *During reverse drive, a pulsing warning sound will be heard.*
– *The reverse drive speed is lower than the forward speed for safety reasons.*

➔ Set the travel direction switch to "backwards".
➔ Press accelerator pedal down slowly.
Note
The accelerator pedal can be used to vary the driving speed infinitely.

Brakes

➔ Release the accelerator pedal, the machine brakes automatically and stops.

Driving over obstacles

Driving over fixed obstacles which are 2.0 in (50 mm) high or less:
➔ Drive forwards slowly and carefully.
Driving over fixed obstacles which are more than 2.0 in (50 mm) high:
➔ Only drive over these obstacles using a suitable ramp.

Overload of the drive motor

In case of overloading, the drive motor automatically switches off after a certain period. The indicator lamp "Overload of the drive motor" will illuminate red as soon as the drive motor current is limited. If the control is overheated, all drives (except for the horn and the filter cleaning) will be switched off.

➔ Allow machine to cool down at least for 15 minutes.
➔ Turn the main switch to "0" and turn it back to "1".

Sweeping mode

⚠ ***Danger***

Risk of injury! If the bulk waste flap is open, stones or gravel may be flung forwards by the roller brush. Make sure that this does not endanger persons, animals or objects.

CAUTION

Do not sweep up packing strips, wire or similar objects as this may damage the sweeping mechanism.

CAUTION

To avoid damaging the floor, do not continue to operate the sweeping machine in the same position.

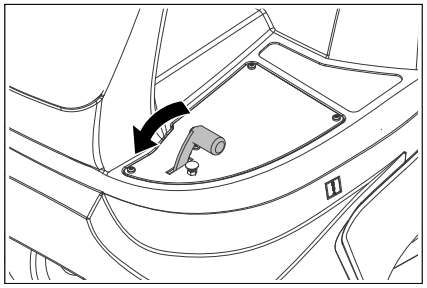
Note: To achieve an optimum cleaning result, the driving speed should be adjusted to take specific situations into account.
Note: During operation, the waste container should be emptied at regular intervals.
Note: When cleaning surfaces, only lower the roller brush.
Note: Also lower side brush when cleaning along edges.

Sweeping with sweep roller

➔ Set programme switch to step 2. Roller brush is lowered.
Note: Roller brush starts operating automatically.

Sweeping with bulk waste flap raised

Note: To sweep up larger items up to a height of 2 inch (50 mm), e.g. cigarette packs, the bulk waste flap must be raised briefly.
Raising bulk waste flap:
➔ Press the pedal for the bulk waste flap forwards and keep pressed down.



➔ To lower it, take foot off pedal.
Note: An optimum cleaning result can only be achieved if the bulk waste flap has been lowered completely.

Sweeping with side brushes

➔ Set programme switch to step 3. Side brushes and roller brush are lowered.
Note: Roller brush and side brush start operating automatically.

Sweeping dry floors

➔ Close wet/dry flap

Sweep in fibrous and dry waste (such as dry grass, hay)

➔ Open wet/dry flap.
Note: You can thus prevent the filter system from getting blocked.

Sweeping damp or wet floors

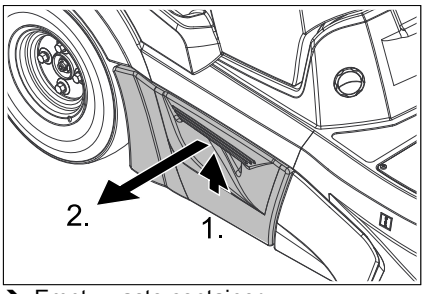
➔ Open wet/dry flap.
Note: This protects the filter from moisture.

Filter dedusting

The appliance is equipped with an automatic filter cleaning system.
The cleaning takes place automatically approx. every 15 seconds. In the process a short blow-off sound can be heard.
➔ Check the installed dust filter for contamination every once in a while. Replace a heavily contaminated or defective filter.

Emptying waste container

Note: Wait until the automatic filter shaking process is finished and the dust has settled before you open or empty the waste container.
➔ Raise the waste container slightly and pull it out.



➔ Empty waste container.
➔ Push in the waste container and lock it.
➔ Empty opposite waste container.

Turn off the appliance

Note: After switching off the appliance, the dust filter is automatically cleaned. Wait for approx. 2 minutes before opening the appliance cover.

➔ Set programme switch to step 1 (driving). The side brush and roller brush are raised.
➔ Turn main key to "0" and remove it.

Note

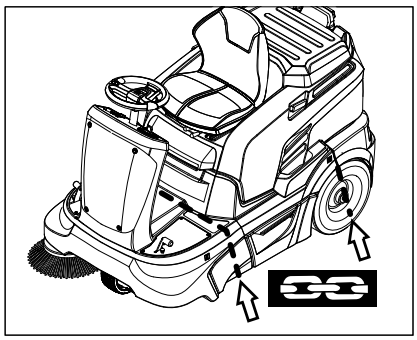
The appliance has an automatic switch-off function to protect the batteries from discharging. If the appliance is not in use (with the key switch turned on) for longer than 30 minutes, it will switch off automatically.

Transport

⚠ ***DANGER***

Risk of injury and damage! Observe the weight of the appliance when you transport it.

➔ Turn main key to "0" and remove it.
➔ Secure the wheels of the machine with wheel chocks.
➔ Secure the machine with tensioning straps or cables.
➔ When transporting in vehicles, secure the appliance according to the guidelines from slipping and tipping over.



Note

Observe markings for fixing points on base frame (chain symbols). When loading or unloading the machine, it may only be operated on gradients of max. 12%.

Storage

⚠ ***DANGER***

Risk of injury and damage! Note the weight of the appliance in case of storage.

Shutdown

If the sweeper is going to be out of service for a longer time period, observe the following points:

➔ Park the sweeper on an even surface.
➔ Set programme switch to step 1 (driving). The roller brush and side brushes are raised to prevent the bristles being damaged.
➔ Turn main key to "0" and remove it.
➔ Lock the sweeper to ensure that it does not roll off.
➔ Clean the inside and outside of the sweeper.
➔ Park the machine in a safe and dry place.
➔ Disconnect battery.
➔ Charge battery and recharge it approx. every 2 months.

Maintenance and care

General notes

➔ First switch off the appliance and remove the key before performing any cleaning or maintenance tasks on the appliance, replacing parts or switching over to another function.
➔ Pull out the battery plug or clamp the battery while working on the electrical unit.
– Maintenance work may only be carried out by approved customer service outlets or experts in this field who are familiar with the respective safety regulations.
– Mobile appliances used for commercial purposes are subject to safety inspections according to VDE 0701.
– Use only roller brushes/ side-brushes that are provided with the appliance or specified in the Operations Manual. The use of other roller brushes/ side-brushes can affect the safety of the appliance.

Cleaning

CAUTION

Risk of damage! Do not clean the appliance with a water hose or high-pressure water jet (danger of short circuits or other damage).
Do not use aggressive and abrasive cleaning agents.

Cleaning the inside of the machine

⚠ ***Danger***

Risk of injury! Wear dust mask and protective goggles.

➔ Open the device hood.
➔ Blow through machine with compressed air.
➔ Clean the machine with a damp cloth which has been soaked in mild detergent.
➔ Close cover.

External cleaning of the appliance

➔ Clean the machine with a damp cloth which has been soaked in mild detergent.

Maintenance intervals

Observe the inspection checklist!
Note: The elapsed-time counter shows the timing of the maintenance intervals.

Maintenance by the customer
Note: Where maintenance is carried out by the customer, all service and maintenance work must be undertaken by a qualified specialist. If required, a specialised Windsor dealer may be contacted at any time.
Daily maintenance:

➔ Check the sweeping roller and the side brush for wear and wrapped belts.
➔ Check tyre pressure.
➔ Check function of all operator control elements.

Weekly maintenance:

➔ Check fluid level of battery.
➔ Check moving parts for freedom of movement.
➔ Check the gasket in the sweeping area for position and wear.
➔ Check dust filter and clean filter box, if required.
➔ Check function of seat contact switch.

Maintenance to be carried out every 100 operating hours:

➔ Check battery acid level.
➔ Check tension, wear and function of drive belts (V-belt and circular belt).

Maintenance following wear:

➔ Replace sealing strips.
➔ Replace roller brush.
➔ Replace side brush.

Note: For description, see section on Maintenance work.

Maintenance by Customer Service
Note: In order to safeguard warranty claims, all service and maintenance work during the warranty period must be carried out by the authorised Windsor Customer Service in accordance with the maintenance booklet.
Maintenance to be carried out after 5 operating hours:

➔ Carry out initial inspection.

Maintenance to be carried out every 50 operating hours

➔ Have maintenance tasks performed according to the inspection check list.

Maintenance to be carried out every 100 operating hours

➔ Have maintenance tasks performed according to the inspection check list.